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EMOTIONAL INTELLIGENCE ON THE ACADEMIC ACHIEVEMENT OF THE B. ED. TRAINEES IN TAMILNADU

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ABSTRACT

In the context of the 21st-century educational system, Emotional Intelligence (EI) has emerged as an essential component of personal and professional growth. It is essential to achieve the predetermined goals of humanity and educational achievements. In this study, the significance of emotional intelligence as a fundamental factor contributing to children's future success is being explored. Therefore, providing emotional intelligence training to teachers becomes essential to enable them to effectively manage their emotions and help their students develop emotional intelligence. The focus of this research is to measure emotional intelligence concerning various variables and examine the levels of emotional intelligence among B.Ed. teacher trainees. This study analyses the emotional intelligence levels of B.Ed. teacher trainees to their academic performance by considering various demographic factors. To achieve this, a Descriptive survey approach was employed, gathering B.Ed. teacher trainees from diverse institutions in Tamil Nadu. The primary objective of this research is to evaluate the creative skills of B.Ed. teacher trainees and gain insights into their levels of emotional intelligence. The current research illustrates the influence of emotional intelligence on academic achievements and performance of B.Ed. trainees. Although Emotional Intelligence (EI) is widely recognized as a crucial factor for success, institutions must prioritize and incorporate EI instruction more comprehensively. To address this, a non-equivalent control group pretest-posttest quasi-experimental design was implemented. The relevant statistical methods, including mean, standard deviation, and t-test were used. The planned research was examined using SPSS software, and the results showed a substantial difference between male and female teacher trainees and a favourable relationship between their emotional intelligence scores and boys and girls. The study also found a strong association between creative skills and teacher trainees from coeducation universities. Cronbach's alpha was obtained at 0.787, Kaiser-Meyer-Olkin (KMO) findings were less than 0.50 at 0.496, although Wilks' Lambda testing yielded values of 0.053 and 0.775, respectively. Consequently, emotional intelligence level and creative skills can contribute to the improvement of students' academic performance.

Keywords: Emotional Intelligence, B. ED. Teacher Trainees**,** Descriptive Survey, Creative Skill, Academic Performance, Statistical Techniques

1. INTRODUCTION

Teacher education shares similarities with other professions, demanding practitioners to possess unique and specialized abilities. Teacher Education is a professional course that equips students for careers in teaching, necessitating a wide range of abilities [1]. In the 21st century, the capacity to deeply understand others, manage emotions, and navigate the stresses of personal and professional life has become indispensable [2]. The B.Ed. program, a specialized degree, that focuses on enhancing a student educator's presentation skills [3]. This program addresses challenges such as mindfulness deficiencies, difficulty in managing emotions, and struggles in connecting with others [4]. To prepare B.Ed. trainees to be successful and compassionate educators, it is crucial to tackle these issues and offer extensive instruction in understanding individuals at their core [5]. Addressing these challenges can enhance the overall quality of education, fostering a stable and enduring learning environment for students [6]. Effective teaching, according to this perspective, involves instructors applying emotional intelligence alongside subject knowledge and effective teaching strategies to convey subject matter effectively to students [7]. Consequently, assessing educators ability to comprehend individuals at their core revolves around the compelling capacity to deeply appreciate people, forming significant areas of strength and rapport between students and instructors.

The key to developing effective teaching strategies lies in the ability to comprehend people, as it enables teachers to accurately gauge their students' emotions [8]. Armed with this knowledge, educators can then craft instructional approaches that foster a conducive learning environment for all students. Furthermore, when B.Ed. students are adept at recognizing and managing their emotions, they are better equipped to meet their students' needs and establish meaningful relationships [9]. This, in turn, can lead to a more successful and rewarding teaching experience for everyone involved [10]. In the twenty-first century, emotional intelligence is of paramount importance for B.Ed. students [11]. Proficiency in understanding people equips them to tackle the myriad challenges they may encounter in their personal and professional lives [12]. The ability to comprehend and manage emotions is a critical skill that contributes to the development of meaningful relationships with friends, partners, and fellow students [13]. B.Ed. students must be capable of recognizing and comprehending not only their own emotions but also those of others to foster deeper levels of mutual respect [14]. The study's primary objective is to delve deeply into individuals' comprehension, a vital perspective that augments students' future success [15]. To support students effectively, educators must possess the capacity to understand people on a profound level and adeptly navigate both their own and others' emotions. The remainder of this essay is organized as follows: section 2 presents the literature analysis, while section 3 outlines the research's issue statement and motivation. The proposed methodology is outlined in section 4, with research results and discussion provided in section 5, and section 6 presents the study's conclusion.

2. LITERATURE SURVEY

The two interconnected developments were investigated in the context of the initiative by Brown *et al* [16]. The ancient philosophical doctrine known as Stoicism provides practical guidance for leading a virtuous and eudaimonic life. The initial findings of the research paved the way for further exploration of Stoicism's implications for leadership. Specifically, Mercader-Rubio *et al* [17] concentrated on intrinsic motivation, defined as the impetus that drives individuals to undertake tasks without anticipating external rewards. The primary findings of this study indicate a correlation between three key elements: intrinsic motivation, the ability to comprehend others on a deeper level, and both combined. These findings underscore the significance of a profound understanding of individuals for fostering intrinsic motivation. According to Supriyadi *et al* [18], the academic outcomes (Y) of students who regularly undergo decision affiliation exams and routine diverse decision tests (X2) are influenced by their capacity to understand people (X1). Students who received affiliation-based diverse decision exams outperformed their peers who underwent conventional diverse decision tests. Babiike *et al* [19] investigated the relationships between PSB (Prosocial Behavior), empathy, and Emotional Intelligence (EI) abilities, as assessed through tests and self-reports among a population of students. The results indicated that the perception of an individual's emotional abilities holds greater importance in predicting PSB than the actual level of those abilities. Additionally, individuals with higher self-rated EI engage in prosocial behaviour more frequently, as they experience empathy both academically and internally. According to Punitha *et al* [20], imagination involves the generation and promotion of innovative ideas and is one of the four critical "4 Cs" (Critical Thinking, Communication, Collaboration, and Creativity) of the twenty-first century. Creativity originates from creative thought. The findings revealed a substantial disparity in the creativity levels between male and female educator learners.

Smaller, reciprocal relationships between creative thinking, business acumen, and the ability to understand individuals as unique entities were observed among teacher candidates, as reported by Durnali *et al* [21]. These findings carry implications for the development and design of more effective teacher preparation programs in alignment with current educational trends. Roy *et al* [22] conducted a study to investigate the impact of internships on the acquisition of subject knowledge and academic information among B.Ed. students. The research revealed no significant differences among B.Ed. students' streams and identified a strong correlation between subject knowledge and academic proficiency. Bala *et al* [23] explored the awareness of cybercrime among female B.Ed. students about type and location. The study's results indicated that female B.Ed. students at government institutions exhibited greater awareness of cybercrimes compared to their counterparts at private universities. Catherine *et al* [24] assessed the Profound Skills of B.Ed. Educator Students, considering select individual characteristics. The study found significant differences between male and female B.Ed. educator students. Male B.Ed. educators were perceived to excel in mindfulness, whereas female B.Ed. educators were deemed superior in terms of compassion. Zia-ud-Din *et al* [25] conducted research that focused on the impact of artificial intelligence on traditional education and proposed recommendations for necessary adaptations. It was concluded that artificial intelligence is unlikely to replace legitimate professions soon.

3. PROBLEM DEFINITION AND MOTIVATION

Emotional intelligence (EI) impacts the academic performance of B.Ed. trainees arise from an increasing understanding of EI's influence on various aspects of teaching and learning. Achieving academic success in teacher preparation programs holds paramount importance, as it directly impacts the quality of prospective educators and, by extension, the state of education as a whole. The critical issue lies in the lack of research and understanding regarding how emotional intelligence affects the academic success of B.Ed. trainees. While subject knowledge and pedagogical skills are typically associated with academic achievement, emotional intelligence exerts significant influence in shaping a trainee's educational journey and overall effectiveness as a teacher. The challenge lies in the inadequate recognition or comprehension of the value of emotional intelligence within teacher preparation programs. The significance of emotional intelligence in cultivating meaningful teacher-student relationships, managing classroom dynamics, and addressing students' socio-emotional needs has often been overshadowed, as traditional teacher training has predominantly emphasized pedagogical skills and subject knowledge.

The extent to which B.Ed. students engage with their courses, instructors, and peers significantly hinges on their emotional intelligence. Higher emotional intelligence among trainees can lead to improved time management, self-control, and resilience, ultimately enhancing their academic performance. Success in teacher preparation programs entails a combination of theoretical knowledge and practical experience. Strong teacher-student interactions foster interest, trust, and better academic outcomes for students. Given the demanding nature of teacher training, it can lead to stress, anxiety, and burnout. To effectively address these challenges and maintain peak academic performance, trainees may need to cultivate their emotional intelligence. This study delves into the impact of emotional intelligence on the academic performance of B.Ed. candidates, emphasizing the importance of integrating emotional intelligence development into teacher preparation programs. Recognizing the correlation between emotional intelligence development and academic achievement may encourage educational institutions to incorporate it as an essential component of the B.Ed. curriculum. The ultimate goal is to nurture well-rounded, emotionally intelligent teachers who excel in the classroom while embodying empathy, understanding, and resilience as they prepare to teach in the twenty-first century.

4. PROPOSED RESEARCH METHODOLOGY

The significance of emotional intelligence (EI) among B.Ed. trainees have grown in the ever-changing 21st-century educational landscape. This study aims to investigate the impact of emotional intelligence on B.Ed. students and its relevance in shaping effective modern-day teachers. To achieve this, the study employed a mixed-methods approach, incorporating questionnaires, interviews, and observations to assess the emotional intelligence levels of B.Ed. trainees. It explored the connection between emotional intelligence, teaching effectiveness, classroom management, and interpersonal interactions. Additionally, the study examined how

emotional intelligence influences trainees' well-being and proposed strategies to nurture emotional intelligence within teacher preparation programs. The results underscore the imperative for educational institutions to integrate emotional intelligence training into their curriculum to cultivate competent, resilient, and emotionally intelligent educators equipped to meet the challenges of the 21st-century educational landscape. According to the findings, emotional intelligence emerges as a pivotal determinant of success in the teaching profession. Figure 1 presents the suggested block diagram for this work.

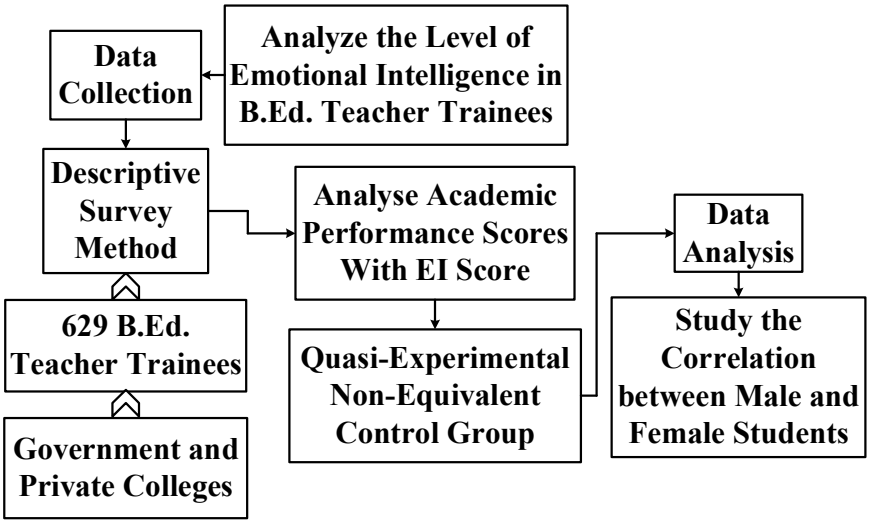

Figure 1: Block Diagram of the Proposed Work

Emotional intelligence has the potential to enhance the management of classroom dynamics, student behaviour, and conflicts, thereby exerting a positive influence on trainees' performance during practicum or internship experiences. The emotional intelligence of B.Ed. trainees can significantly impact their capacity to establish meaningful connections with students during their teaching practice. Additionally, it can augment the adaptability and receptiveness of B.Ed. trainees to innovative teaching methodologies and approaches, enabling them to continually advance and innovate in their academic pursuits. The primary research objective is to examine the role of emotional intelligence among B.Ed. trainees in the 21st century is to attain a comprehensive understanding of how emotional intelligence shapes the teaching profession and the broader educational landscape. The study seeks to uncover the significance of emotional intelligence in B.Ed. trainees and its influence on their teaching effectiveness, interpersonal relationships, classroom management, and overall well-being in the context of contemporary educational challenges. Another key objective involves analysing the connection between emotional intelligence and personal well-being. This goal centres on the examination of how emotional intelligence contributes to the overall well-being and effective stress management of B.Ed. trainees, recognizing that teaching can be emotionally demanding and challenging. Furthermore, the study aims to identify strategies for promoting emotional intelligence among B.Ed. trainees. This objective seeks to propose effective methods, interventions, or training programs that can be

seamlessly integrated into the B.Ed. curriculum or professional development workshops, thereby enhancing emotional intelligence skills among trainees. By successfully achieving these objectives, the study will make a valuable contribution to the broader understanding of the role of emotional intelligence within the teaching profession and its relevance in addressing the diverse challenges confronted by educators in the 21st-century educational landscape.

(a) Objectives of the Study

The study's stated objectives were as follows:

- To study the levels of emotional intelligence and creative skill among B.Ed. teacher trainees.
- To find out the level of creative skill and emotional intelligence scores among male and female teacher trainees.
- To compare the academic performance scores of teacher trainees with their emotional intelligence scores.

(i) Hypotheses of the Study

In the study, the following hypotheses were investigated:

- There is no significant difference between the relationship between the emotional intelligence scores and the academic performance scores of students.
- There is no significant difference between the male and female teacher trainees in their creativity and their emotional intelligence scores.
- There is a positive correlation between the male and female teacher trainees in emotional intelligence scores and their academic performance.

(b) Methodology of the Study

The primary objectives of this study were to compare the academic performance of students with varying levels of emotional intelligence, examine the relationship between emotional intelligence and trainees' academic achievement, and assess the emotional intelligence of B.Ed. trainees. To accomplish these objectives, a combination of quantitative research methods, including descriptive surveys and correlational analyses, was employed. Data collection involved the use of a survey method within the descriptive research framework. The study's population consisted of teacher candidates from selected private, assisted, and public B.Ed. colleges. For this study, a random sample of 629 teacher candidates was collected.

(i) Procedure of Data Collection

To gather data from the selected sample group, the investigator first obtained permission from the Coordinator of a B.Ed. Programme. Subsequently, following the granted permission, the investigator personally met with first-year students, administered a standardized emotional intelligence scale, and collected pertinent data. Additionally, academic performance scores from the last semester were also obtained.

(ii) Population and Sample of the Study

The present study employed a descriptive survey method. A simple random sampling technique was utilized to collect data from 629 B.Ed. trainees enrolled in various colleges of education across Tamil nadu state. These 629 students constituted the population of the study. Due to the commencement of the two-year integrated B.Ed. Program in 2022, students in the first and second years were actively engaged in school internship programs. Consequently, a random selection process was used to gather 348 students from the 1st year and 281 students from the 2nd year. As a result, the study sample comprised 629 two-year integrated trainees from both public and private universities.

Table 1: Demographic Details of Respondents

Demographic	Characteristics	No. of Respondents	Total
Gender	Male	258	629
	Female	371	
Age	22	197	629
	23	204	
	24	175	
	>24	53	
Grade	First Year	348	629
	Second Year	281	
Colleges	Government	115	629
	Private	514	

First, classrooms equipped with regular access to multimedia tools, including interactive whiteboards, iPads, and computers via computer labs, were considered as having exposure to multimedia. Table 1 presents demographic information of the respondents, categorized by gender, age, grade, and college. The survey included secondary students from both government and private colleges, ranging in age from 22 to over 24, with 371 female and 258 male participants. Second, an assessment was conducted to determine whether teachers were effectively utilizing emotional intelligence in courses where it was available over six weeks. This assessment involved observing specific sessions designed to integrate emotional intelligence for the benefit of the students.

(c) Components of Emotional Intelligence

The components of emotional intelligence are outlined as follows:

Self-Awareness: Observing oneself and recognizing the emotions of B.Ed. trainees.

Managing Emotions: Emotional management encompasses the regulation of feelings to facilitate a deeper understanding of their underlying significance, the cultivation of coping mechanisms for addressing fears and concerns, and the effective handling of anger and sadness.

Motivating Oneself: Directing emotions toward a specific objective involves emotional self-control, inhibiting impulses, and delaying gratification.

Empathy: Empathy is the ability to be sensitive to another person's feelings and concerns, and to take on their perspective; it also entails recognizing that people's viewpoints may vary.

Managing Relationships: Social Skills, Social Competence, and Managing Others' Emotions.

(i) Emotional Intelligence Scale

A standardized Emotional Intelligence measure consisting of 35 items was developed employing a five-point scale with response options ranging from "Strongly Disagree" to "Strongly Agree." Among the seven variables comprising the instrument, Levels of Emotional Intelligence (LEI), Level of Creative Skill (CS), and Academic Performance Scores (AP) were included. LEI can be further categorized into four groups: self-awareness (SA-EI), managing emotions (ME-EI), self-motivation (SM-EI), and handling relationships (HR-EI). The internal consistency of the Emotional Intelligence Scale is assessed using Cronbach's alpha, while the test-retest reliability of the overall scale scores is examined for the instrument.

(d) Tools and Techniques Used in the Study

The researchers employed a validated Creativity Scale to collect the necessary data for the study. While one of the research instruments was developed and standardized by the researcher, the other two had previously undergone standardization. The following tools were used in the current investigation to collect data from the sample groups. The researcher, in collaboration with the Research Supervisor, developed and validated the Scale, comprising 35 statements. A Linkert scale score of 5 was assigned for "Strongly Agree", 4 for "Agree", 3 for "Undecided", 2 for "Strongly Disagree", and 1 for "Disagree".

(i) Statistical Technique Used

Both descriptive and inferential statistical approaches were employed to analyze the collected data, given that the present research was exclusively quantitative. The scale's cut-off score was determined, and based on this score, the distribution was categorized into the following levels: high emotional intelligence, above average, average, below average, and low emotional intelligence. This categorization was performed to analyse the data related to students' emotional intelligence scores. Furthermore, Pearson Product Moment Correlation was used in the present study to compare means and investigate correlations.

(ii) Experimental Design and Data Analysis

Correlations between the research variables were analysed using a descriptive and correlational methodology. To assess the effectiveness of the established project, a quasi-experimental approach with a pre-test/post-test design and a control group was implemented. The General Linear Model (GLM) of repeated measurements was utilized for the studies. Data analysis and graphical representation were performed using IBM SPSS version 23.0, licensed by the University of Alicante in Spain. Ultimately, approval for all processes was granted by the University of Alicante Ethics Committee.

5. RESULTS AND DISCUSSION

The following variables were utilized in this research: LEI (Levels of Emotional Intelligence), SA (Self-Awareness), ME (Managing Emotions), SM (Self-Motivation), HR (Handling Relationships), CS (Creative Skill), and AP (Academic Performance Scores). Consequently, data from 629 B.Ed. trainees were collected for this research. The Statistical Package for the Social Sciences (SPSS) application was employed to analyze the survey data. Systematic SPSS-based data collection was utilized for descriptive analysis, t-test, factor analysis, MANCOVA, reliability, and correlation analyses. The statistical model calculated the relationship between the independent and dependent variables. The simulation tools used for the recommended system are listed in table 2 below.

Table 2: Simulation System Configuration

SPSS Statistical Tool	Version 23.0
Operation System	Windows 10 Home
Memory Capacity	6GB DDR3
Processor	Intel Core i5 @ 3.5GHz

Only 4% of the students attempted every item on the pre-test, but 75% of them answered the questions correctly. However, on the follow-up test, only 45% of participants answered all items correctly after attempting 86% of them. On every post-test item, the students significantly outperformed their pre-test performance.

(a) Emotional Intelligence Levels of B.Ed Teacher Trainees

The Emotional Intelligence Inventory has been employed to assess emotional intelligence. To gather information on background variables, a personal information questionnaire was utilized. The development of students' emotional intelligence depends on a teacher's ability to engage in emotional reasoning and leverage emotions to enhance cognitive processes. It is believed that an emotionally competent instructor is at the core of every educational curriculum.

Table 3: Emotional Intelligence Levels of B.Ed. Teacher Trainees

Emotional intelligence(E.I) Level	E.I Scores	N			%
		Male	Female	Total	Total
Very good	< 45	25	7	32	5.087
Good	45-55	86	93	179	28.458
Average	56-70	94	115	201	31.955
Poor	71-85	47	107	154	24.483
Very Poor	>85	14	49	63	10.017
Total		258	371	629	100

Emotional intelligence is categorized into five levels: very poor, poor, average, good, and very excellent as shown in table 4. The interpretation of raw data varied between men and women for each level of emotional intelligence. By summing the raw scores of male and female participants within each category, it was observed that numerous B.Ed teacher candidates belonged to each of these five categories. Subsequently, percentages were calculated to analyse the distribution of teacher candidates within each level of emotional intelligence.

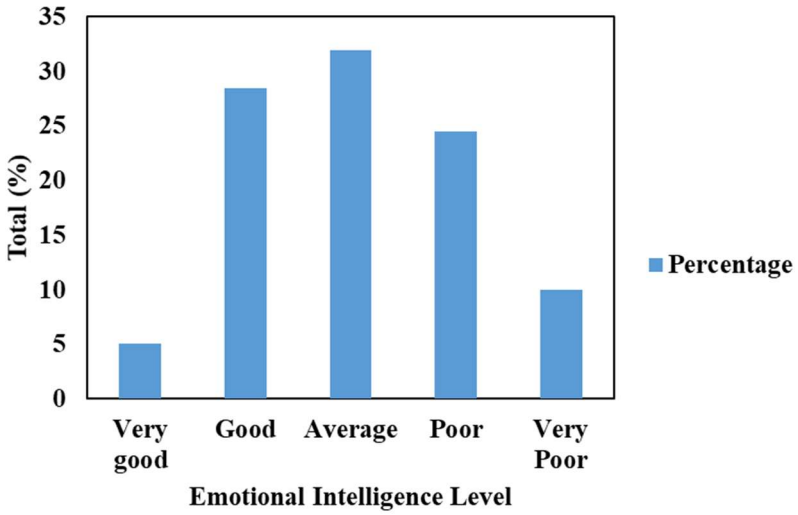

Figure 2: Emotional Intelligence levels of B.Ed. Trainees

The statistics presented above clearly indicate that the majority (65.59%) of B.Ed. teacher trainees possess emotional intelligence levels categorized as average and above average, while only 34.5% of teacher trainees exhibit emotional intelligence below the average threshold. Figure 2 illustrates the distribution of emotional intelligence levels among trainee teachers. A significant portion of teacher candidates demonstrate self-awareness and the ability to effectively manage their own emotions as well as those of others. This proficiency is highly advantageous for fostering an efficient teaching-learning process during the B.Ed. program. This positive outcome may be attributed to various factors such as teacher educators in self-financed institutions actively working to enhance the affective skills of teacher trainees, providing timely feedback on their strengths and

weaknesses, modelling the desired positive attitudes, emotions, and behaviours, or fostering strong relationships between the teacher educator and the teacher trainee.

(b) Pearson Product Moment Correlation

The Pearson product-moment correlation coefficient, commonly referred to as Pearson's correlation, assesses the strength and direction of the relationship between two variables measured on at least an interval scale.

Table 4: Product Moment Correlation Coefficient

		BLEI	**GLEI**	**BSA-EI**	**GSA-EI**	**BME-EI**	**GME-EI**	**BSM-EI**	**GSM-EI**	**BHR-EI**	**GHR-EI**	**BCS**	**GCS**	**BAP**	**GAP**
BLEI	Pearson Correlation	1	.075	.041	-.002	-.012	.013	-.024	.011	.048	.026	.048	.054	.054	.044
	Sig. (2-tailed)		.062	.309	.967	.760	.751	.545	.791	.234	.516	.227	.174	.178	.272
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GLEI	Pearson Correlation	.075	1	.168**	.002	.029	.018	.012	-.022	-.018	.011	.022	.065	-.020	.002
	Sig. (2-tailed)	.062		.000	.954	.463	.653	.770	.579	.657	.788	.576	.105	.618	.953
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
BSA-EI	Pearson Correlation	.041	.168**	1	.223**	-.022	-.024	.050	-.003	.029	.031	-.077	.033	.021	-.084*
	Sig. (2-tailed)	.309	.000		.000	.578	.551	.214	.942	.469	.439	.053	.409	.592	.036
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GSA-EI	Pearson Correlation	-.002	.002	.223**	1	.167**	.075	.006	-.031	.061	-.013	.003	-.024	-.054	.082*
	Sig. (2-tailed)	.967	.954	.000		.000	.062	.876	.442	.126	.741	.949	.549	.179	.040
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
BME-EI	Pearson Correlation	-.012	.029	-.022	.167**	1	.133**	-.019	-.023	.032	.097*	-.008	-.006	.025	.070
	Sig. (2-tailed)	.760	.463	.578	.000		.001	.631	.559	.421	.015	.838	.872	.530	.078
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GME-EI	Pearson Correlation	.013	.018	-.024	.075	.133**	1	.136**	.019	.061	.060	-.020	-.031	-.013	.028
	Sig. (2-tailed)	.751	.653	.551	.062	.001		.001	.642	.124	.130	.622	.438	.736	.482
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
	Pearson Correlation	-.024	.012	.050	.006	-.019	.136**	1	-.014	.023	-.057	.064	.030	-.007	.013

BSM-EI	Sig. (2-tailed)	.545	.770	.214	.876	.631	.001		.729	.558	.150	.107	.457	.868	.754
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GSM-EI	Pearson Correlation	.011	-.022	-.003	-.031	-.023	.019	-.014	1	.173**	-.020	.030	.059	-.021	-.030
	Sig. (2-tailed)	.791	.579	.942	.442	.559	.642	.729		.000	.616	.458	.137	.595	.456
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
BHR-EI	Pearson Correlation	.048	-.018	.029	.061	.032	.061	.023	.173**	1	.181**	.007	.054	.026	-.002
	Sig. (2-tailed)	.234	.657	.469	.126	.421	.124	.558	.000		.000	.866	.178	.510	.959
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GHR-EI	Pearson Correlation	.026	.011	.031	-.013	.097*	.060	-.057	-.020	.181**	1	.091*	-.003	.018	.021
	Sig. (2-tailed)	.516	.788	.439	.741	.015	.130	.150	.616	.000		.022	.946	.645	.601
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
BCS	Pearson Correlation	.048	.022	-.077	.003	-.008	-.020	.064	.030	.007	.091*	1	.170**	.106**	.014
	Sig. (2-tailed)	.227	.576	.053	.949	.838	.622	.107	.458	.866	.022		.000	.008	.728
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GCS	Pearson Correlation	.054	.065	.033	-.024	-.006	-.031	.030	.059	.054	-.003	.170**	1	.233**	.095*
	Sig. (2-tailed)	.174	.105	.409	.549	.872	.438	.457	.137	.178	.946	.000		.000	.017
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
BAP	Pearson Correlation	.054	.020	.021	-.054	.025	-.013	-.007	-.021	.026	.018	.106**	.233**	1	.118**
	Sig. (2-tailed)	.178	.618	.592	.179	.530	.736	.868	.595	.510	.645	.008	.000		.003
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629
GAP	Pearson Correlation	.044	.002	-.084*	.082*	.070	.028	.013	-.030	-.002	.021	.014	.095*	.118**	1
	Sig. (2-tailed)	.272	.953	.036	.040	.078	.482	.754	.456	.959	.601	.728	.017	.003	
	N	629	629	629	629	629	629	629	629	629	629	629	629	629	629

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson product-moment correlation coefficient is presented in table 5. This analysis indicates that emotional intelligence has a relatively weaker impact on students' performance and creative abilities. It primarily compares males and females in terms of emotional intelligence, innovation abilities, and academic success. The study's initial hypothesis, suggesting a stronger positive association between trainees' academic success and their emotional intelligence scores, is

supported. Furthermore, it reveals a stronger positive association between students' emotional intelligence scores and their levels of creativity, regardless of gender. Consequently, it establishes a connection between the academic achievement of both male and female B.Ed. trainees and their emotional intelligence ratings.

(c) Reliability Analysis

The reliability coefficient provides information about the reliability of a test, denoted by the letter "r", and yields a value between 0 and 1.00. A value of 0 indicates no reliability, while 1.00 signifies exceptional reliability.

Table 5: Reliability Test Results

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.787	.287	14

The value of Cronbach's alpha is provided in the reliability data shown in table 6, which is the first significant table included in the preceding section. In simple terms, Cronbach's alpha offers an overall measure of reliability for a set of components, such as the questions in this case. The calculated Cronbach's alpha indicates that this scale, for the specific sample examined, exhibits a high degree of internal consistency. Test reliability was established using the test-retest method, and for the 14 items on the test, it yielded a coefficient of 0.787. Thus, based on these two coefficients, it can be concluded that this test is highly reliable and valid.

Table 6: ANOVA with Friedman's Test

		Sum of Squares	df	Mean Square	Friedman's Chi-Square	Sig
Between People		30008.272	628	47.784		
Within People	**Between Items**	509.285[a]	13	39.176	14.947	.311
	Residual	278108.643	8164	34.065		
	Total	278617.929	8177	34.073		
Total		308626.201	8805	35.051		
Grand Mean = 18.96						
a. Kendall's coefficient of concordance W = .002.						

The Friedman test, a non-parametric alternative to one-way ANOVA with repeated measurements, is presented in table 7. It is employed to analyse differences between groups when the dependent variable is ordinal or when continuous data significantly deviates from normality, rendering it unsuitable for one-way ANOVA with repeated measurements. In the table above, the test statistic (Chi-square) is 14.947, with degrees of freedom (df) equal to 2 and a significance

level (Asymp. Sig.) of 0.311. It is important to note that all research should report the results of the Friedman test. The mean rankings of the connected categories differ significantly in a general statistical sense. It is worth emphasizing that the Friedman test, like its parametric counterpart assesses overall differences without specifying the precise nature of the group differences.

(d) Descriptive Statistics

Descriptive statistics are used to characterize the fundamental properties of data in research, providing concise descriptions of both the sample and the measurements. Alongside basic graphical analysis, these descriptive statistics serve as the foundation for nearly all quantitative data research.

Table 7: Descriptive Statistics of Students

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
LEI	629	7	31	19.10	5.891	.144	.097	-1.218	.195
SA-EI	629	7	31	19.14	5.846	.161	.097	-1.202	.195
ME-EI	629	6	36	18.86	6.039	.263	.097	-1.090	.195
SM-EI	629	7	35	18.87	5.836	.239	.097	-1.093	.195
HR-EI	629	7	54	19.16	6.103	.521	.097	.448	.195
CS	629	4	54	18.81	5.940	.482	.097	.729	.195
AP	629	5	36	19.13	6.023	.124	.097	-1.106	.195
Valid N (listwise)	629								

Table 8 presents descriptive data regarding the improvements observed in the Control group's students between the pre-and post-tests. According to the results, the component related to students' creative skills had the lowest mean value, which was 18.81, while the component associated with their emotional intelligence based on handling relationships had the highest mean value, at 19.16. This resulted in standard deviations of 5.891, 5.846, 6.039, 5.836, 6.103, 5.940, and 6.023 for the variables LEI, SA-EI, ME-EI, SM-EI, HR-EI, CS, and AP, respectively. However, the HR-EI and CS variables exhibited positive Kurtosis values of 0.448 and 0.729, respectively, and the standard error for the skewness value was 0.097.

(e) MANCOVA

One-way multivariate analysis of covariance (MANCOVA) can be likened to a one-way MANOVA with the addition of a covariate, or to a one-way ANCOVA involving multiple dependent variables. The covariate exhibits a linear relationship with the dependent variables, and

its inclusion in the analysis enhances the ability to detect differences in an independent variable among groups. Following the adjustment for a continuous covariate, a one-way MANCOVA is employed to determine whether there are statistically significant differences among the adjusted means of three or more independent (unrelated) groups.

Table 8: Multivariate Tests[a] Analysis Results

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.997	3509.121[b]	2.000	19.000	.000
	Wilks' Lambda	.003	3509.121[b]	2.000	19.000	.000
	Hotelling's Trace	369.381	3509.121[b]	2.000	19.000	.000
	Roy's Largest Root	369.381	3509.121[b]	2.000	19.000	.000
SAEI	Pillai's Trace	.985	.924	42.000	40.000	.600
	Wilks' Lambda	.256	.882[b]	42.000	38.000	.655
	Hotelling's Trace	1.960	.840	42.000	36.000	.708
	Roy's Largest Root	1.118	1.065[c]	21.000	20.000	.446
MEEI	Pillai's Trace	1.115	1.260	40.000	40.000	.234
	Wilks' Lambda	.185	1.262[b]	40.000	38.000	.237
	Hotelling's Trace	2.796	1.258	40.000	36.000	.244
	Roy's Largest Root	1.972	1.972[c]	20.000	20.000	.069
SMEI	Pillai's Trace	1.124	1.282	40.000	40.000	.218
	Wilks' Lambda	.191	1.223[b]	40.000	38.000	.268
	Hotelling's Trace	2.584	1.163	40.000	36.000	.325
	Roy's Largest Root	1.444	1.444[c]	20.000	20.000	.209
HREI	Pillai's Trace	1.047	.998	44.000	40.000	.504
	Wilks' Lambda	.226	.953[b]	44.000	38.000	.563
	Hotelling's Trace	2.219	.908	44.000	36.000	.623
	Roy's Largest Root	1.266	1.151[c]	22.000	20.000	.378

a. Design: Intercept + SAEI + MEEI + SMEI + HREI + SAEI * MEEI + SAEI * SMEI + SAEI * HREI + MEEI * SMEI + MEEI * HREI + SMEI * HREI + SAEI * MEEI * SMEI + SAEI * MEEI * HREI + SAEI * SMEI * HREI + MEEI * SMEI * HREI + SAEI * MEEI * SMEI * HREI
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Table 9 presents the MANCOVA test results for the submitted research in the Sig. column, specifically for the row containing the categorical predictor variables SAEI, MEEI, SMEI, and HREI. The F-value for the intercept is 3509.121b, with an error value of 19 and a significance level of 0.000. Conversely, the predicted variables SAEI, MEEI, SMEI, and HREI have F-values of 0.924, 1.260, 1.282, and 0.998 for Pillai's Trace, respectively.

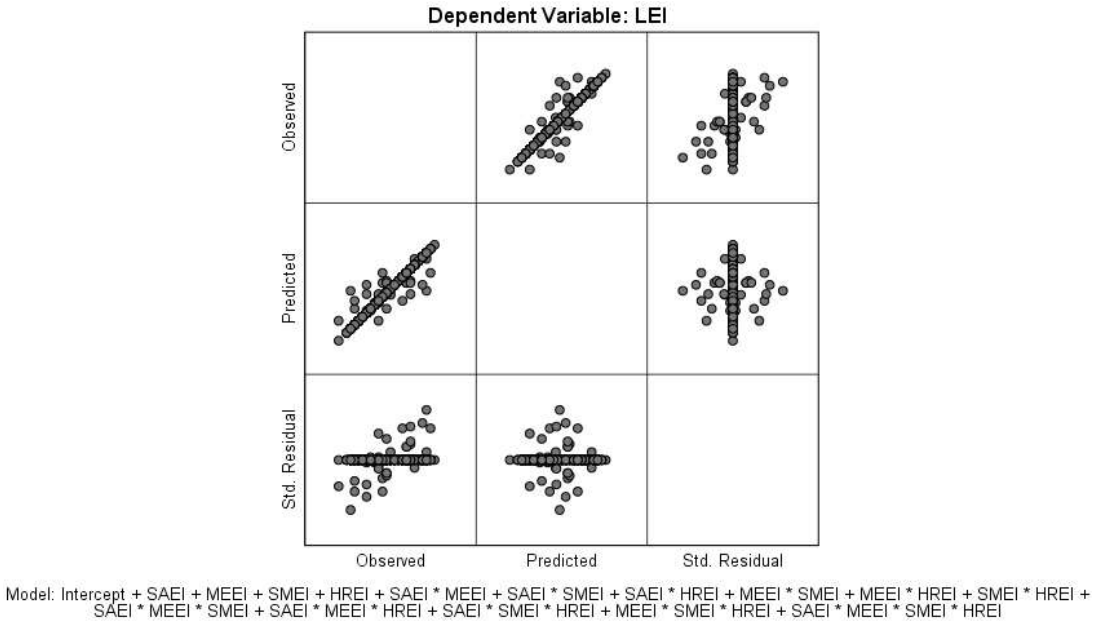

Figure 3: MANCOVA Analysis Results

Figure 3 depicts the MANCOVA analysis that can be employed to forecast a dependent variable comprising "count data" in the presence of one or more independent factors. The dependent variable, known as the response, outcome, target, or criterion variable, represents the variable the study aims to predict. The factors used by the model to predict the value of the dependent variable are termed independent variables, also referred to as predictor, explanatory, or regressor variables.

(f) T-Test Analysis for Hypothesis Testing

A statistical test called a t-test is used to compare the means of two samples. It is employed in hypothesis testing when there is a difference between the group means, as opposed to the null hypothesis, which assumes no difference between the group means.

Table 9: Paired Samples Test Analysis

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BSA-EI - GSA-EI	-.016	7.404	.295	-.596	.564	-.054	628	.957
Pair 2	BME-EI - GME-EI	.347	7.932	.316	-.274	.968	1.096	628	.274
Pair 3	BSM-EI - GSM-EI	.890	8.474	.338	.227	1.554	2.635	628	.009
Pair 4	BHR-EI - GHR-EI	-.173	7.404	.295	-.753	.406	-.587	628	.557
Pair 5	BLEI - GLEI	-.041	7.984	.318	-.666	.584	-.130	628	.897

Table 10 above presents the results of the paired samples test conducted in the research. This test involves two variables, which were examined through specific sequential subtractions. The table offers valuable insights into the relationship and differences between these paired variables, highlighting their significance in the study. The test statistics for the paired T-test, corresponding to the paired variables BSA-EI and GSA-EI, BME-EI and GME-EI, BSM-EI and GSM-EI, BHR-EI and GHR-EI, and BLEI and GLEI, respectively, are as follows: -0.054, 1.096, 2.635, -0.587, and -0.130.

(g) Factor Analysis

In this study, the KMO value ranging from 0 to 1, was employed as an indicator of sample suitability. Higher KMO values suggest that the variables are more suitable for factor analysis, indicating the presence of more common factors among them. Another criterion for assessing factor adequacy is the significance of Bartlett's sphericity test. Subsequently, the factor with the larger absolute value of the loadings between factors and items was identified using the greatest variance technique, allowing for appropriate naming.

Table 10: Factor Analysis Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.496
Bartlett's Test of Sphericity	Approx. Chi-Square	282.019
	df	91
	Sig.	.000

Table 11 presents the results of the KMO and Bartlett tests, which are utilized for the validity assessment of the questionnaire through factor analysis. The indication is considered valid if the KMO value is greater than or equal to 0.50, in this case, 0.496, with a significance level less than 0.05 (specifically, 0.001), and a loading factor value exceeding 0.50. The test result is confirmed based on the results of data processing, with a chi-square value approximately equal to 282.019.

Table 11: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.453	10.379	10.379	1.453	10.379	10.379
2	1.418	10.128	20.507	1.418	10.128	20.507
3	1.246	8.903	29.410	1.246	8.903	29.410
4	1.194	8.526	37.936	1.194	8.526	37.936
5	1.106	7.900	45.836	1.106	7.900	45.836
6	1.056	7.544	53.380	1.056	7.544	53.380
7	1.001	7.148	60.527	1.001	7.148	60.527
8	.965	6.893	67.420			
9	.898	6.413	73.833			
10	.846	6.044	79.877			
11	.769	5.494	85.371			
12	.737	5.262	90.633			
13	.709	5.061	95.694			
14	.603	4.306	100.000			
Extraction Method: Principal Component Analysis.						

The findings regarding the total explained variance are presented in table 12. This table includes the KMO value obtained from the tourism experience questionnaire data, as well as the significance level of Bartlett's test, both of which indicated suitability for factor analysis. Upon examining the two factors resulting from the factor analysis, it was found that the explained variance for the factor structure was 10.379, 10.128 for component two, and 8.903 for component three. The analysis covered a total of seven aspects.

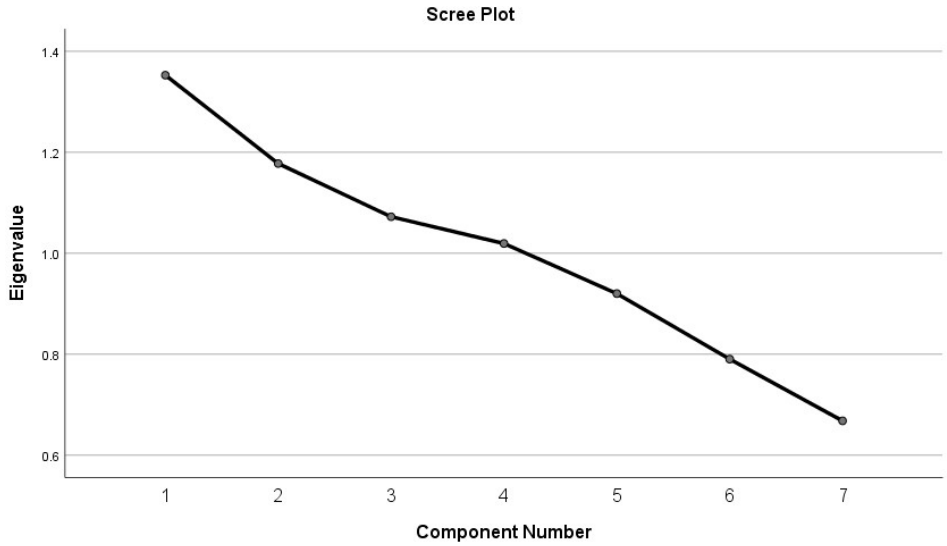

Figure 4: Scree Plot of Eigenvalues

Figure 4 illustrates the scree plot for KMO, which is a line plot depicting the eigenvalues for factors or principal components in an analysis. The scree plot is utilized to determine the number of variables or principal components to retain in exploratory factor analysis (FA) or principal component analysis (PCA).

(h) Discriminant Functions

The magnitudes of these coefficients indicate the degree to which the scoring is influenced by the discriminating factors. In the first function, the standardized coefficient for the z-social variable is larger in magnitude than the coefficients for the other two variables.

Table 12: Eigenvalues and Multivariate Tests

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	13.549[a]	97.9	97.9	.965
2	.289[a]	2.1	100.0	.474
a. First 2 canonical discriminant functions were used in the analysis.				

Table 13 presents the multivariate tests and eigenvalues for this investigation. These eigenvalues represent the outcome of combining the inverse sums-of-squares and cross-product matrices for both within-group and between-groups data. These eigenvalues correspond to canonical correlations of 0.965 and 0.474, indicating the discriminatory power of the functions. The magnitude of the eigenvalues, indicating highly discriminating functions, are 13.549a and 0.289a.

Table 13: Wilks' Lambda Test

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.053	4.398	4	.355
2	.775	.381	1	.537

The Wilks' Lambda test, a multivariate statistic, is presented in table 14. The Wilks' Lambda test produced values of 0.053 and 0.775 for both canonical correlations, 4.398 and 0.381 for the chi-square, and 0.355 and 0.537 for the significance of the research, and the product of these values is calculated.

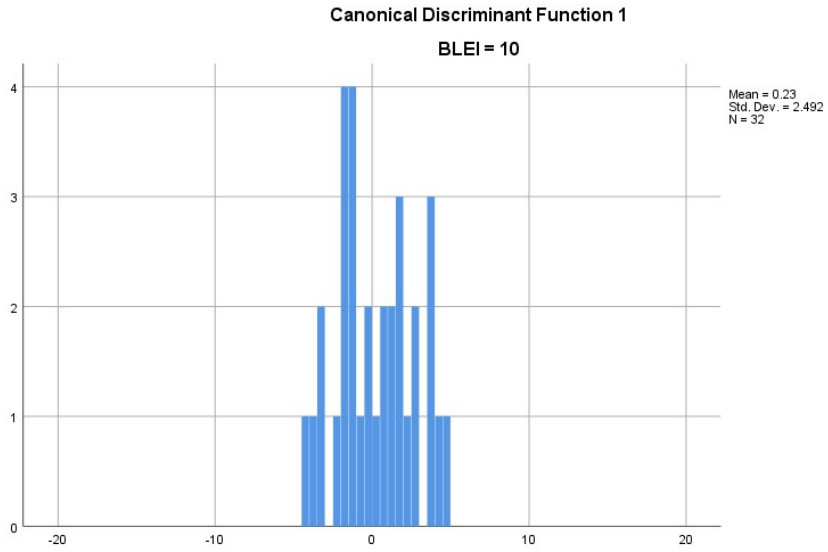

Figure 5: Canonical Discriminant Function Graph

Figure 5 presents a graph of individuals based on the canonical discriminant dimensions. To enhance readability, labels for the work categories will be condensed due to the large number of subjects. The variable BLEI is expected to have a mean value of 0.23, a standard deviation of 2.492, and a total of 32 samples.

6. RESEARCH CONCLUSION

The impact of emotional intelligence (EI) on the academic performance of B.Ed. trainee is a critical aspect that warrants investigation. Exploring this subject has yielded insightful findings regarding how emotional intelligence influences teacher preparation programs and student achievement. First, assessing the emotional intelligence of students reveals its positive effect on instructional effectiveness. Those pursuing education degrees with high emotional intelligence excel in classroom management, adapt to diverse learning styles, and foster positive relationships with their students. These attributes contribute to the development of effective teaching strategies,

resulting in improved student learning outcomes. Second, emotional intelligence plays a crucial role in managing the challenges and pressures encountered during teacher preparation. Trainees with high EI are better equipped to navigate coursework, practicum experiences, and interactions with instructors and peers. Educational institutions can create a supportive environment that enhances students' emotional well-being, leading to improved academic performance. Furthermore, emotional intelligence develops future teachers, making them resilient and empathetic professionals. Education majors who cultivate their emotional intelligence are better prepared to thrive in the dynamic and evolving educational landscape of the twenty-first century. The present research examines the levels of EI, creative ability, and academic achievement among students. The SPSS program is employed for data analysis, and a quasi-experimental approach is used to assess pre-test and post-test results. The study identifies a strong correlation between students' academic achievement and their emotional intelligence levels. Based on the findings, the suggested study demonstrates a high Cronbach's alpha value of 0.787, a cumulative value of 97.9, a KMO value of 0.496, and a Wilks' Lambda significance value of 0.355. Consequently, it is imperative to evaluate the emotional intelligence of B.Ed. students to gauge their academic success. To ensure the comprehensive growth and success of future educators, teacher preparation programs and educational policymakers must prioritize the development of emotional intelligence.

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